Draft Rule
#01-180(WPCB)

Rule 13: Operational Rule

SECTION 1. 327 IAC 8-13 IS ADDED TO READ AS FOLLOWS:

327 IAC 8-13-1 Purpose of rule

Authority: IC 13-13-5-1; IC 13-13-5-2; IC13-18-3-2; IC 13-18-11-13; IC 13-18-16-9
Affected: IC 13-14-1-13; IC 13-14-8; IC 13-18-11-2

Sec. 1. The purpose of this rule is to establish and maintain standards of operation and require corrections to drinking water source, water treatment plant and distribution system operations so as to protect human health and prevent adverse impacts to drinking water. *(Water Pollution Control Board; 327 IAC 8-13-1)*

327 IAC 8-13-2 Applicability of rule

Authority: IC 13-13-5-1; IC 13-13-5-2; IC13-18-3-2; IC 13-18-11-13; IC 13-18-16-9
Affected: IC 13-14-1-13; IC 13-14-8; IC 13-18-11-2

Sec. 2. The standards and practices established in this rule apply to the operation and maintenance of all new or existing public water systems in Indiana. Each public water system shall comply with this rule. *(Water Pollution Control Board; 327 IAC 8-13-2)*

327 IAC 8-13-3 Definitions

Authority: IC 13-13-5-1; IC 13-13-5-2; IC13-18-3-2; IC 13-18-11-13; IC 13-18-16-9
Affected: IC 13-14-1-13; IC 13-14-8; IC 13-18-11-2

Sec. 3. The following definitions apply throughout this rule:

(1) "Critical part" means a piece of equipment essential to the safe operation of a public water system, including expendable parts such as glassware, fittings, hose clamps, and gaskets.

(2) "Distribution system" means one (1) of the following:

(A) In a community public water system, the term means the network of water piping, pumping stations, storage equipment, valves, fire hydrants, pressure regulators, and equipment required to transport water to the customer's service connection from one (1) of the following points:

(i) A treatment plant.

(ii) A source of raw water supply if no treatment is provided.

(B) In a noncommunity public water system, the term means the network of water piping, pumping stations, valves, fire hydrants, pressure regulators, and equipment required to transport water to the point of use from one (1) of the following:

(i) A point that is one (1) foot beyond the water storage tank.
(ii) The well if no water storage tank is utilized.
(iii) A source of purchased water supply if no additional treatment is provided.

(3)"Flushing " means sending water through a portion of the system at a sufficient volume and velocity to remove loose forms, particles, sediment and materials.

(4) "Flushing device" means any device that is used to clear stagnant water from piping . Also any device used for flushing.

(5) "Generic Meters" means any mechanism used to measure flow of water from or across a distribution system which would include the following:
(A) Residential. ***? Not sure what this means will get better explanation***
(B) Industrial.

(6) "Hydraulic information" means the slope of each of the following:
(A) Hydraulic grade line.
(B) Water surface in an open channel.
(C) Water surface of the groundwater table.
(D) Water pressure for pipe under pressure (shows different pressures plains).

(7) "Interconnections" means a public water system supplies water to or receives water from one (1) or more public water systems.

(8) "Maintenance Logs" means a method of recording the following:
(A) Maintenance of the distribution system, including appropriate pipe replacement and repair procedures.
(B) Main flushing programs.
(C) Maintenance of storage tanks and reservoirs.
(D) Continual maintenance of positive water pressure in all parts of the distribution system.

(9) "Major system components" means any equipment that if failed would leave consumers ***with;***
(A) pressure below 20 psi at the consumer's meter; or
(B) water quality that violates 327IAC 8-2.

(10) "Process flow" means how the water flows from the source through the treatment process to the first customer.

(11) "Source" means the origin of the water that is treated or distributed whether it is ground water, surface water, or purchased water.

(12) "Storage system" means any device used ***for the purpose of containing*** **water which would include any size of containers, but does not include distribution piping.**

(13) "Supplier of Water" means owner, operator ***or*** **governing body of public water systems.**

(14) "Treatment system" means any ***combination of devices and chemicals*** **used** ***for the purpose of modifying*** **the water's characteristics.**

(Water Pollution Control Board; 327 IAC 8-2-13.3)

327 IAC 8-13-4 Operation

Authority: IC 13-13-5-1; IC 13-13-5-2; IC13-18-3-2; IC 13-18-11-13; IC 13-18-16-9
Affected: IC 13-14-1-13; IC 13-14-8; IC 13-18-11-2
(From 8-13-5 (b)An owner of a public water system is responsible for ensuring that:
(1) The system complies with this rule.
***(2) The system's operating staff has all of the resources and training necessary for proper operation of the system.*)**
Refer to 327 IAC 8-12-3.2

(Water Pollution Control Board; 327 IAC 8-13-4)

327 IAC 8-13-5 General Maintenance

Authority: IC 13-13-5-1; IC 13-13-5-2; IC13-18-3-2; IC 13-18-11-13; IC 13-18-16-9
Affected: IC 13-14-1-13; IC 13-14-8; IC 13-18-11-2

Sec. 5. (a) A supplier of water shall ensure that the public water system is operated to provide and maintain safe drinking water to consumers. This responsibility includes the following:

(1) Maintaining or contracting trained staff to perform all necessary duties.

(2) Performing maintenance and replacement of equipment when necessary.

(3) Providing testing to control and monitor treatment processes and chemical addition programs.

(b)An owner of a public water system is responsible for ensuring that:

(1) The system complies with this rule.

(2) The system's *operating staff* has all of the resources and training necessary for proper *maintenance* of the system.

(c) A supplier of water shall meet the flow rate and pressure requirements set forth in 327 IAC 8-3.4-12.

(d) A public water system shall ensure that chemicals added to drinking water and passed to the distribution system *are* approved by any of the following:

(1)As required by the Indirect and Direct Additive Rule.

***(2) As required by NSF 60 and 61*.**

(e) All chemical containers shall bear the name, address and telephone number of the supplier, along with a functional name or identification and strength of the chemical.

(f) Chemicals shall not be fed in excess of the maximum dosage approved by U.S. EPA or USFDA.

(g) A public water system shall comply with 327 IAC 8-3 when one or more construction permits are required.

(h) A public water system shall have an operation and maintenance program in which the system *maintains* compliance with *this article and* The Safe Drinking Water Act. The program must also include a documented operation and maintenance plan. Public water systems classified as class DSS(distribution system small) or other systems approved by the commissioner may use a checklist instead of a documented operational plan.

(i) A public water system shall have a procedure or method to obtain critical spare parts available to address reasonably foreseeable needs in a timely fashion in order to prevent adverse impacts to drinking water. (*Water Pollution Control Board; 327*

IAC 8-13-5)

327 IAC 8-13-6 Operation and Maintenance Program

Authority: IC 13-13-5-1; IC 13-13-5-2; IC13-18-3-2; IC 13-18-11-13; IC 13-18-16-9
Affected: IC 13-14-1-13; IC 13-14-8; IC 13-18-11-2

Sec. 6. (a) The Operation and Maintenance Program required under section 5 of this rule must contain a description of known system components including the following:

(1) Source.
(2) Treatment system.
(3) Storage system.
(4) Distribution system.
(5) Interconnections.
(6) Meters that are used for system flow or process control.
(7) Pumps.

The description must include all information necessary for operation, maintenance, repair and their location as applicable based on the best available information.

(b) The Operation and Maintenance Program required under section 5 of this rule must contain an approach for maintaining the operation to include at a minimum the following:

(1) A schematic drawing of the process flow.
(2) Schematic drawings for the following if available:
(A) Hydraulic information.
(B) Supervisory Control and Data Acquisition (SCADA) system information.
(3) Process operation description which includes all of the major system components.
(4) Manufacturer's Operation Manuals if available.
(5) An overview of security measures which may include fencing, securing of components, employee training, and access controls.

(c)The Operation and Maintenance Program required under section 5 of this rule must contain a maintenance schedule of how major system components are maintained including the following:

(1) Target frequency.
(2) Maintenance logs.
(3) The portion of the manufacturer's O & M manual dealing with maintenance frequency if available.
(4) Description of maintenance procedures.

(d) The Operation and Maintenance Program required under section 5 of this rule must contain a contact list with names and phone numbers including the following as applicable:

(1) Vendors and suppliers.
(2) Responsible staff.
(3) Contractors utilized by a public water system.
(4) Utilities.
(5) Regulatory Agencies.

(6) Management.

(7) Consultants used by a public water system.

(8) Critical Users.

(9) Emergency contacts.

(10) Other contacts utilized for O & M functions.

(e) The Operation and Maintenance Program required under section 5 of this rule must contain an approach for maintaining safety procedures.

(f) The Operation and Maintenance Program required under section 5 of this rule must contain an approach for maintaining a supply inventory including the following if applicable:

(1) Treatment chemicals.

(2) Critical spare part/equipment/lubricants.

(3) Testing/lab supplies.

(4) General supplies.

(g) The Operation and Maintenance Program required under section 5 of this rule must list information regarding compliance monitoring and reporting including the following:

(1) To whom the operating staff of a public water system reports.

(2) What is reported.

(3) Frequency of reporting.

(4) Where reports are sent.

(5) Method of information reporting.

(6) Location of where reports are maintained.

(h) The Operation and Maintenance Program required under section 5 of this rule must contain a method for keeping records. The method must include keeping the records current *for all information required by this section.*

(i) *For all existing* public water systems, the Operation and Maintenance Program required under section 5 of this rule *must be* in place *according to the requirements below*:

(1) DSS and DSM one year from the effective date of this rule.

(2) DSL and WT2 two years from the effective date of this rule.

(3) WT3,WT4, WT5 three years from the effective date of this rule.

(j) All new construction completed *on any existing public water system* after the effective date of the rule must be accurately represented and included in The Operation and Maintenance Program *within one year of completion of that construction*.

(k) *For new public water systems that commence construction on or after the effective date of this rule , an Operation and Maintenance Program required under section 5 of this rule must be in place within one (1) year of completion of construction.*

(l) The commissioner may require additional information if necessary on a case-by-case basis. *(Water Pollution Control Board; 327 IAC 8-13-6)*

327 IAC 8-13-7 Distribution System

Authority: IC 13-13-5-1; IC 13-13-5-2; IC13-18-3-2; IC 13-18-11-13; IC 13-18-16-9
Affected: IC 13-14-1-13; IC 13-14-8; IC 13-18-11-2

Sec. 7. (a) Distribution system pressure requirements are as follows:

(1) The system shall be designed and operated to maintain a minimum residual pressure *in accordance of 327 IAC 8-3.4-12*

(2) The system shall be designed to at least meet existing demands on the distribution system. A public water system may not add customers unless they can show they can meet section 7(a)(1). If twenty (20) psi can not be maintained the system *shall* be upgraded to meet requirements.

(3) *Where the distribution system, existing or new storage, or pumping* cannot provide a minimum pressure of twenty (20) psi throughout the distribution system at ground level, it shall be necessary to create a boosted pressure zone to serve those portions of the system.

(4) Community and Nontransient noncommunity systems must have a method for recording pressure twenty-four (24) hours a day so that pressure does not fall below twenty (20) psi.

(b) A sample site plan and map including addresses must meet the following:

(1) A Public water system must collect total coliform samples at sites which are representative of water throughout the distribution system according to a written sample siting plan approved by the commissioner. A site plan is to be on file in the Drinking Water Branch, Office of Water Quality, and the system files.

(2) The general location of routine sample sites must be indicated on the site plan and map and the specific locations are to be identified using a three (3) digit identification number e.g., (001). Using the three (3) digit identification number, a corresponding list is to be completed which includes the address and phone number of each site. The number of sites is based on the population served by the water supply. Systems should choose sites with dedicated sampling taps or businesses with ready access. Dead end lines and outside spigots shall be avoided. The plan, as submitted to the Drinking Water Branch, is reviewed for completeness by the field inspector.

***(*3) The sample site plan and map required under subdivision (d)(1) must be reviewed annually and updated as *appropriate*.**

(c) A public water system must meet the following:

(1)Dead ends shall be minimized by looping mains whenever *feasible*. Where dead end mains occur, they shall terminate with an adequate flushing device. Refer to 327 IAC 8-3.2-13 for further dead end requirements.

(2) A flushing device must meet the following:

(A) Existing public water systems shall provide flushing devices to ensure that quantity and quality of water are not adversely impacted.

(B) Public water systems designed and constructed after the effective date of this rule must comply with flushing device requirements of 327 IAC 8-3.2-15.

___(C) A flushing device *that has an apparatus that drains* which is found to be connected to, or located within ten (10) feet of sanitary sewers or storm sewer inlets must be disconnected, relocated, or plugged.

(3) Valves must meet the following:

(A) Public water systems shall have valves to minimize customer service disruptions.

(B) Public water systems designed and constructed after the effective date of this rule must comply with valve requirements of 327 IAC 8-3.2-14.

(C) Valves should be exercised at a frequency to maintain proper operation.

(4) Water Loading Stations must meet the following:

(A) There may be no back flow to the public water supply.

(B) The piping arrangement shall prevent contaminants being transferred from a hauling vessel to others subsequently using the station.

(C) Hose *connections used for potable water* may not come into contact with the ground. *If the hose connections become contaminated by the ground, they shall be disinfected according to 327 IAC 8-3.2-18.*

(5) Booster Stations shall *have* automatic control equipment installed to prevent the pump from causing a vacuum or lowering water pressure in any part of the distribution to less than twenty (20) psi as measured at ground level.

(d) A supplier of water shall perform routine maintenance to ensure leaks are discovered and repaired as soon as possible.

(e) Backflow preventors *shall* be provided and maintained according to 327 IAC 8-10.

327 IAC 8-13-8 Source, pumps, and control valves

Authority:

Affected:

Definitions:

"Pumping water level" means the vertical distance in feet from the centerline of the pump discharge to the level of the free pool while water is being drawn from the pool.

"Pumping test" Dale Pershing to send in info

"Specific capacity" means the rate of discharge of a production well per unit of drawdown. This term is commonly expressed as a unit of volume produced from a well within a unit of time per length or depth of drawdown.

"Static water level" means the level of water (including seasonal fluctuations) in the production well that is not influenced by pumping.

"Well Yield" means

Sec. 8. (a) Source requirements are as follows:

(1) Requirements for wells are as follows:

(A) Wells *constructed after the effective date of this rule* shall be constructed according to 327 IAC 8-3.4-1.

(B) Pumping tests shall be conducted *as follows:*

***(i) Community and Nontransient noncommunity systems with susceptible populations shall conduct pump tests no less frequently than once in a two year period*;**

(ii) Nontransient noncommunity and Transient water systems without susceptible populations shall conduct pump tests no less frequently than once in a four year period; or

(iii) A public water system shall have a plan in place for conducting pumping tests based on previous records that demonstrate efficiency of the well.

(C) Pumping tests shall be used to determine specific capacity or efficiency of the well.

(D) Static water levels and pumping water levels shall be monitored according to the following:

(i) Community and Nontransient noncommunity systems with susceptible populations shall monitor twice a year.

(ii) Nontransient noncommunity and Transient systems without susceptible populations shall monitor once a year during peak pumping season.

(E) The following information on well and well pumping equipment shall be maintained by the utility, and updated when any changes occur:

(i) Well log if available.

(ii) Date well was installed.

(iii) Rated Capacity.

(iv) Total Well Depth.

(v) Diameter of casing.

(vi) Type of aquifer formation if known.

(vii) Length of screen or open interval.

(viii) Diameter of screen, if applicable.

(ix) Type of screen material and slot/opening, if applicable.

(x) Date and results of most recent flow test.

(xi) Specific Capacity of well at installation.

(xii) Design head and shut-off pressure of pump.

(xiii) Pump suction setting depth.

(xiv) Pump head discharge size.

(xv) Size and type of column piping, including length and number of column sections.

(xvi) Number of pump stages.

(xvii) Pump curves from the manufacturer or based on the most recent flow test.

(xviii) Data on the pump motor, including type, horsepower, voltage, RPM, amperes and number of phases.

(xix)Well or pump maintenance activities records.

(xx) Cleaning reports shall be kept on hand for the life of the well.

(F) *At a minimum, production wells and or well pumps shall be cleaned or repaired if one of the following conditions exist:*

(i) Well yield is less than sixty-six percent (66%) of original capacity.

(ii) Significant increases in drawdown are identified.

(iii) The presence of fine-grained materials, sand, silt, or clay, are identified in the pumped water.

(iv) Increased or significant changes in water turbidity, odor, taste, or color are identified.

(v) A complete loss of production from the well.

(vi) Any other significant change in the operation of the well or pumping equipment is recognized.

(2) Requirements for surface intakes are as follows:

(A) The *minimum* velocity of flow must be twenty-five hundredths (0.25) to fifty hundredths (0.50) feet per second (fps) through the inlet structure.

(B) Protection must be provided against *damage* due to dragging anchors, ice, and other activities.

(C) Diversion devices *shall be operated in a manner to keep materials from clogging the intake structure.*

(D) As built drawings must be *maintained in the records*.

(E) Impoundments, reservoirs, *and associated spillways and release structures owned and operated by a public water supply shall be inspected on a regular basis and maintained to ensure the continued provision of water.*

(3) Potable water lines *are to be distinguished from all other piping*.

(4) *All community water systems shall have an approved wellhead program pursuant to 327 IAC 8-4.1.*

(5) All public water systems shall take into consideration the following items to protect water supplies from the entrance of contaminants:

(A) Privies.

(B) Septic tanks.

(C) Cesspools.

(D) Sewers (storm, sanitary, combined, and sewer service connections).

(E) Subsurface seepage-disposal lines.

(F) Pits or ponds receiving fluids such as surface waters, oils, and grease.

(G) Flood waters.

(6) Security of source

What should be on Web site? *(discuss with group)*

(b) A public water system must comply with the following pump and control valve requirements:

(1) The following are requirements concerning lubrication:

(A) Water lubricated pumps are required.

(B) All prelubricating lines shall be equipped with metering controls to monitor and limit the volume of prelubrication water.

(2) Maintenance inspection of pumps shall evaluate the following as applicable to ensure maximum operating efficiency and minimum maintenance expenditures:

(A) Priming system.

(B) Packing and seals.

(C) Bearings.

(D) Vibration.

(E) Alignment.

(F) Sensors and controls.

(G) Pressure gauges.

(3)Pump valve requirements are as follows:

(A) Pumps shall be adequately valved to permit satisfactory operation, maintenance, and repair of the equipment.

(B) If foot valves are necessary, they must:

(i) Have a net valve area of at least two and one-half (21/2) times the area of the suction pipe; and

(ii) Be screened.

(C) Each pump shall have a positive-acting check valve between the pump and the discharge valve.

(7) *Any pump discharging to the distribution system or pumping within the distribution system shall have the following:*

(A) A standard pressure gauge on its suction and discharge line.

(B) A compound gauge on its suction line if applicable.